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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/749,396

01/02/2004

Takeshi Yamamoto

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7590

07/28/2008

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

CHEN, WEN YING PATTY

ART UNIT

PAPER NUMBER

2871

NOTIFICATION DATE

DELIVERY MODE

07/28/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/749,396	<b>Applicant(s)</b> YAMAMOTO, TAKESHI	
	<b>Examiner</b> WEN-YING PATTY CHEN	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4,6 and 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,6 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on Jun. 19, 2008 has been entered.

### ***Response to Amendment***

Applicant's Amendment filed on Jun. 19, 2008 has been entered. Claim 10 is newly added per the Amendment filed, therefore, claims 1, 4, 6 and 10 are now pending in the current application.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1, 4, 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhong et al. (US 6707067) in view of Nishida et al. (US 6842207) further in view of Fujimori et al. (US 2002/0075441) further in view of Yi et al. (US 2003/0104291) further in view of Inoue et al. (JP 2001-091727).**

Zhong discloses in Figures 6A-6C a liquid crystal display apparatus configured to have a liquid crystal layer (element 45) interposed between a first substrate (Fig. 5, element 19) and a second substrate (Fig. 5, element 51) and the method of making the same, characterized by comprising:

a plurality of pixels which are disposed in a matrix (elements 111, 112, 113) in a display region that displays an image;

scan lines (element 7) disposed in a row direction, signal lines (element 5) disposed in a column direction, and switching elements (as shown) disposed near intersections of scan lines and signal lines in communication with the plurality of pixels;

color filter layers which correspond to different wavelengths (elements 101-103);

through-holes (element 35) formed in the color filter layers in which a first pixel electrode (element 3) connects to the switching elements via the through-holes; and

a counter electrode (element 49) is formed on the second substrate.

Zhong does not disclose the color filter layers having different thicknesses that result in different cell gaps and a columnar spacer is disposed on the color filter for creating a cell gap and

further that the columnar spacer and the light shield layer are formed simultaneously using a negative-type photosensitive resin material by undergoing a single exposure process through a photo mask having a predetermined pattern.

However, Nishida teaches in Figure 12d of forming a first pixel with a first gap (pixel corresponding to element 6) for interposition of the liquid crystal layer between the first substrate and the second substrate, and a second pixel with a second gap (pixel corresponding to element 7) that is smaller than the first gap, and a third pixel with a third gap (pixel corresponding to element 8) that is smaller than the second gap, the first pixel including a first color filter layer (element 6) that has a first film thickness and mainly passes first color light, and the second pixel including a second color filter layer (element 7) that has a second film thickness, which is greater than the first film thickness, and mainly passes second color light, and the third pixel including a third color filter layer (element 8) that has a third film thickness, which is greater than the second film thickness, and mainly passes third color light, the first color light having a wavelength that is greater than a wavelength of the second color light, and the second color light having the wavelength that is greater than a wavelength of the third color light (Column 16, lines 15-30);

a spacer (element 25) for creating the third gap, the spacer being disposed only on the third pixel; and

a light shield layer (element 9) disposed in a picture-frame shape along a peripheral edge of the display region (Column 16, lines 18-20) for improving display contrast.

Although Nishida does not teach a columnar spacer, however, Fujimori teaches in Figure 1 of disposing a columnar spacer (element 10) only on the blue pixel and Yi discloses in Figure 4 a liquid crystal display apparatus comprising of columnar spacer (element 43) such that the

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columnar spacer and a light shield layer (element 116) are formed simultaneously using a negative-type photosensitive resin material (Paragraphs 0037-0041) and further Inoue teaches that the simultaneously forming of spacers and light shield layers can be done with single exposure process (Paragraph 0039).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to manufacture a liquid crystal display apparatus as taught by Zhong wherein the color filter layers have different thickness for creating different cell gaps as taught by Nishida, since Nishida teaches that a very good display free from any coloring from whichever direction it is viewed can be obtained and wherein the spacer used is a columnar spacer as taught by Fujimori, since Fujimori teaches that columnar spacers can be fabricated with various methods and the dimensions can be easily controlled (Paragraph 0029) and further to formed the columnar spacer simultaneously with the light shield layer using a negative-type photosensitive resin material as taught by Yi, since Yi teaches that the columnar spacer can be formed of the same material and at the same step as forming the black matrix, therefore, the fabrication process can be simplified and the cost of production can be reduced (Paragraph 0041) and further wherein the simultaneous forming of the spacer and the light shield layer comprises single exposure process as taught by Inoue, since Inoue teaches that the fabrication process can accordingly be further simplified (Paragraph 0039).

### ***Response to Arguments***

Applicant's arguments with respect to all claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WEN-YING PATTY CHEN whose telephone number is (571)272-8444. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

WEN-YING PATTY CHEN  
Examiner  
Art Unit 2871

/wpc/  
7/20/08

/Andrew Schechter/  
Primary Examiner, Art Unit 2871